

INSTALLER'S GUIDE

18-GJ37D1-6B-EN

ALL phases of this installation must comply with
NATIONAL, STATE AND LOCAL CODES

Model:
BAYWA2311SC1AA

Top Mount Hydronic Coil Accessory

Fits Hyperion™ and ForeFront™
Air Handler models

IMPORTANT— This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

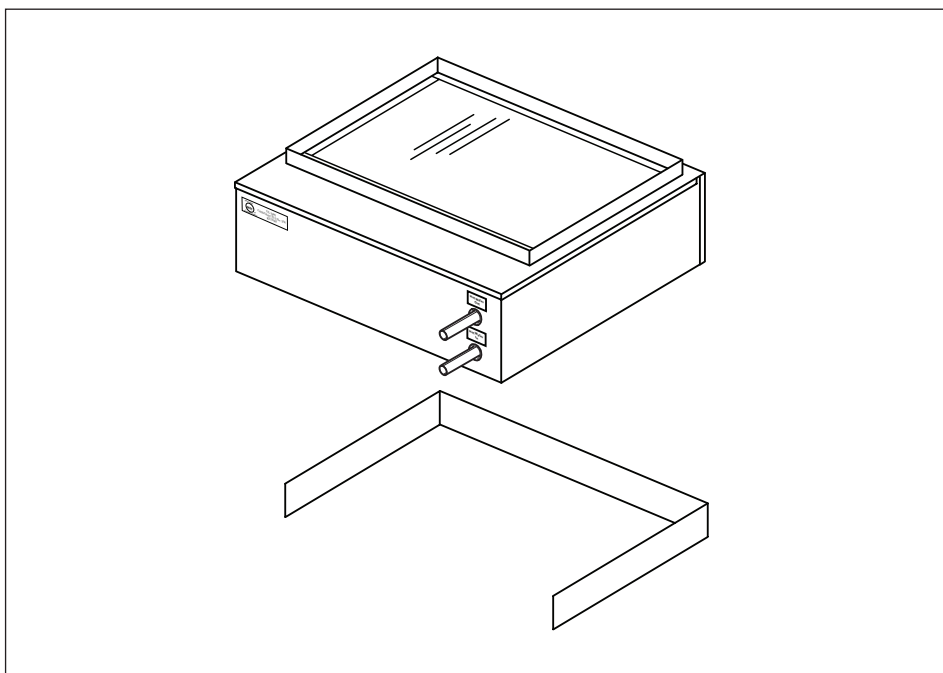


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Section 1. Safety Considerations

IMPORTANT: Read this manual carefully before attempting to install, operate, or perform maintenance on this hydronic coil. Installation, service, and maintenance should be performed by qualified technicians only.

NOTE: "Warnings" and "Cautions" appear at appropriate places in this manual. Read these carefully. Your personal safety and the proper operation of this heating product require that you follow them carefully. The manufacturer assumes no liability for installations or services performed by independent dealers.

Safety signal words are used to designate a degree or level of seriousness associated with a particular hazard. The signal words for safety markings are WARNING and CAUTION.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in property damage, death or serious personal injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It is also used to alert against unsafe practices and hazards involving only property damage.

1.1 WARNINGS

WARNING

THE INFORMATION IN THIS GUIDE IS FOR USE BY INDIVIDUALS HAVING ADEQUATE ELECTRICAL AND MECHANICAL BACKGROUND. ANY ATTEMPTS, BY UNQUALIFIED PERSONS, AT PLUMBING, INSTALLING OR REPAIRING A HYDRONIC SYSTEM OR CENTRAL AIR CONDITIONING PRODUCT COULD RESULT IN PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH. THE MANUFACTURER OR SELLER CANNOT BE RESPONSIBLE FOR THE INTERPRETATION OF THIS INFORMATION, NOR CAN IT ASSUME ANY LIABILITY IN CONNECTION WITH ITS USE.

WARNING

ELECTRICAL HAZARD!

DISCONNECT ALL ELECTRICAL POWER, INCLUDING REMOTE DISCONNECTS BEFORE INSTALLING OR SERVICING. FOLLOW PROPER LOCKOUT/TAGOUT PROCEDURES TO ENSURE THE POWER CAN NOT BE INADVERTENTLY ENERGIZED. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

WARNING

LEAK HAZARD!

IF THE HYDRONIC COIL HAS A LEAK, USE CAUTION WHEN SERVICING THIS EQUIPMENT. THOROUGHLY WIPE OFF EXCESS WATER FROM ALL COMPONENTS AND ALLOW ADEQUATE TIME FOR THE COMPONENTS TO DRY COMPLETELY BEFORE SERVICING SYSTEM.

FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, PROPERTY DAMAGE, OR DEATH.

WARNING

HIGH PRESSURE HAZARD!

MAXIMUM ENTERING WATER TEMPERATURE IS 180°F. WATER TEMPERATURES EXCEEDING 180°F COULD CAUSE A HIGH PRESSURE BURST. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

WARNING

SCALD HAZARD!

THIS SYSTEM CONTAINS HOT WATER AND OPERATES UNDER PRESSURE. WATER TEMPERATURES ABOVE 125°F CAN INSTANTLY CAUSE SEVERE BURNS OR DEATH.

USE CAUTION WHEN SERVICING THIS EQUIPMENT. ALLOW SUFFICIENT TIME FOR THE WATER TO COOL BEFORE OPENING THE SYSTEM DRAIN. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, PROPERTY DAMAGE, OR DEATH.

WARNING

SAFETY HAZARD!

REMOVE ANY ELECTRICAL STRIP HEATERS WHEN INSTALLING THE HYDRONIC HEATER COIL. ELECTRICAL AND HYDRONIC HEAT MUST NOT BE USED TOGETHER. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

1.2 CAUTIONS

CAUTION

SAFETY HAZARD! Sharp Edge Hazard. Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing. Personal injury may result.

CAUTION

SAFETY HAZARD!

All joints must be leak free. Seal per local and national codes.

CAUTION

FREEZE HAZARD! Installations subject to freezing ambient temperatures must have provisions for freeze protection to avoid damage to this appliance.

CAUTION

SAFETY HAZARD! The selected location and orientation of the air handler and hydronic coil must allow the hydronic heating unit's circulator pump to be positioned with the motor shaft horizontal. Do Not install the hydronic coil with its service panel and the circulator pump facing vertical, up, or down.

Section 2. General Information

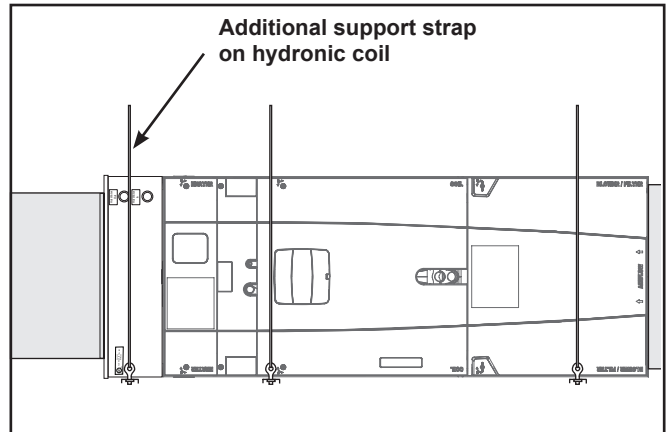
IMPORTANT - Follow all National and local codes when installing this hydronic coil.

This accessory hydronic coil is designed to deliver primary or secondary heating capacity and can be used in either a potable or non-potable water system. Maximum entering water temperature is 180 °F.

1. Check the hydronic coil nameplate to confirm that the selected hydronic coil is approved for use with the air handler.
2. Check the components received for damage. Report any defects or shortages to the transportation company immediately.

NOTE - Since the hydronic coil mounts over the discharge end of the air handler, it is necessary that the equipment power enter from one of the side conduit entry points.

NOTE - The hydronic coil can be installed in upflow, down-flow, or horizontal positions. When the air handler is installed in the horizontal orientation, an additional strap must be used on the coil section.

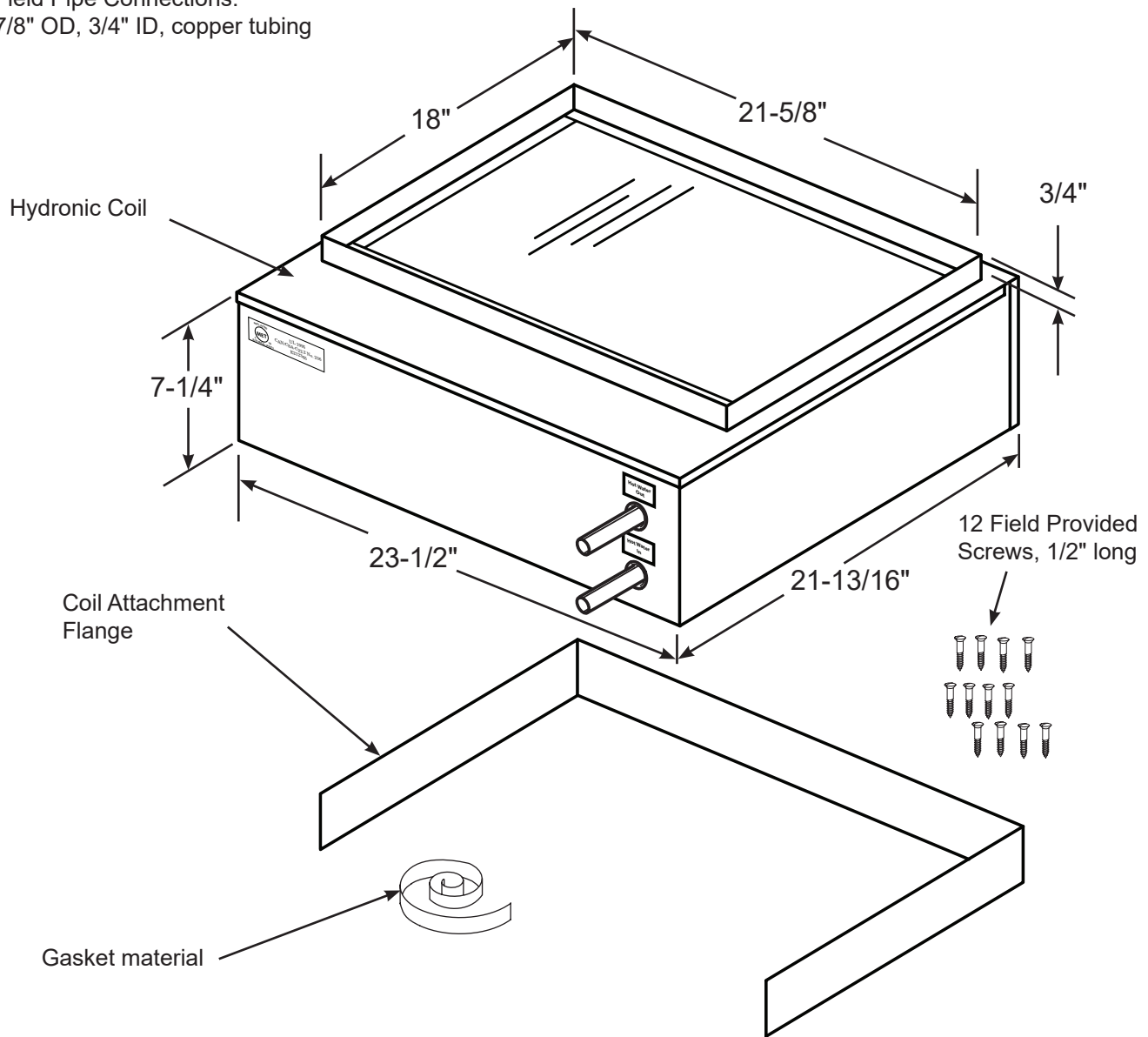


Water Coil Model Number Nomenclature																
Digit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Coil number		B	A	Y	W	A	2	3	1	1	S	C	1	A	A	A
Brand	B = Both Brands	B														
Product Type	AY = Accessory		A	Y												
Heat Type	W = Hot Water Coil				W											
Product Tier	A = Air Handler Tier (5, 9, and X)					A										
	V = Air Handler Tier (7, 8) ¹															
Size (Footprint)	Cabinet Width in Inches - 17, 21, or 23						2	3								
Hydronic Heat Input	Hydronic Heat - 10,000 BTUH (05,07,08,10,11)								1	1						
Connection	SC = Sweat / Solder										S	C				
Power Supply	1 = 208-230/1/60												1			
Major Design Modification	Letter Sequence													A		
Minor Design Modification	Letter Sequence														A	
Unit Parts Identifier	Letter Sequence															A

1- Tier 7 and 8 air handlers require the use of control board kit BAYWVBRD485

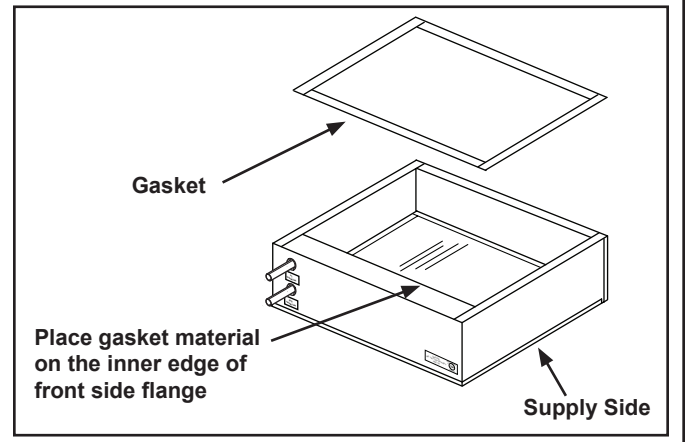
Section 3. Hydronic Coil Assembly

Field Pipe Connections:
7/8" OD, 3/4" ID, copper tubing



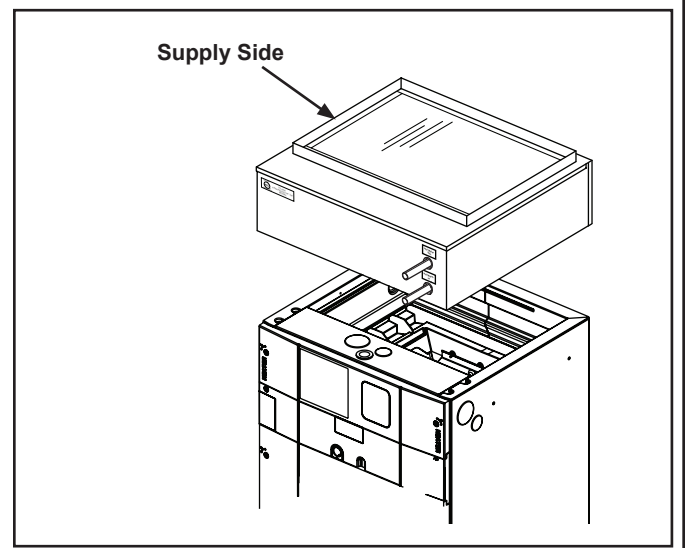
Section 4. Install Hydronic Coil

STEP 1 - Place the hydronic coil with the supply side facing down. Apply gasket material onto the coil flanges. On the front flange, the gasket material must be at the inner edge to create an airtight seal.



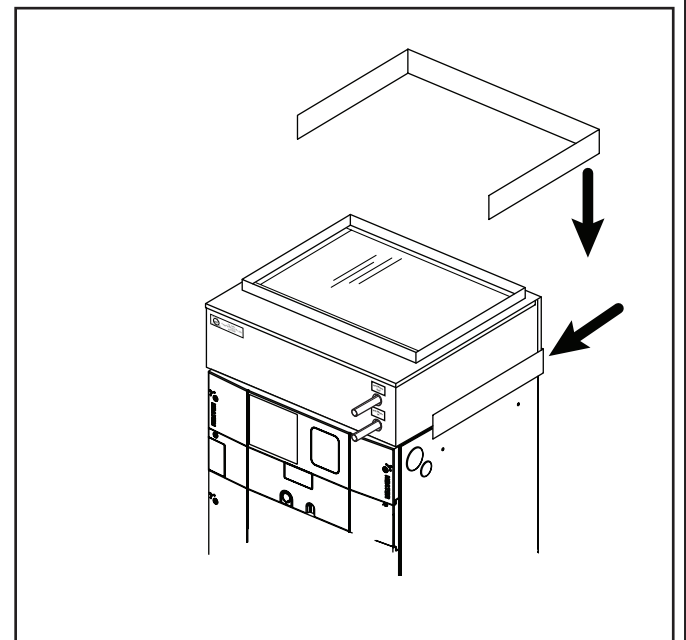
STEP 2 - Place hydronic coil on top of the air handler cabinet.

1. Flip coil over so the gasket is on the bottom and the supply side flanges are facing up.
2. Set the coil on top of the air handler.
3. Align the coil with the air handler case.



STEP 3 - Wrap the coil attachment flange around the air handler and coil. It should have equal amounts of material covering the coil and air handler cabinet.

1. Take the attachment flange and wrap it around the air handler and coil.
2. Equal amounts of material should cover the coil and air handler.

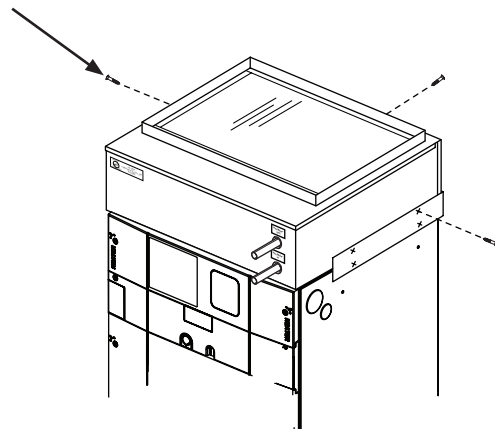


STEP 4 - Attach flange to air handler and coil.

1. Using field supplied screws, attach the coil attachment flange to the air handler and the coil.
2. Use four screws minimum per side.
3. Recommended screw length is 1/2" long.

NOTE - The hydronic coil can be installed in upflow, downflow, or horizontal positions. When the air handler is installed in the horizontal orientation, an additional strap must be used on the coil section.

Four screws Minimum per side



Section 5. Piping

IMPORTANT - Follow all National and local codes when piping the hydronic system.

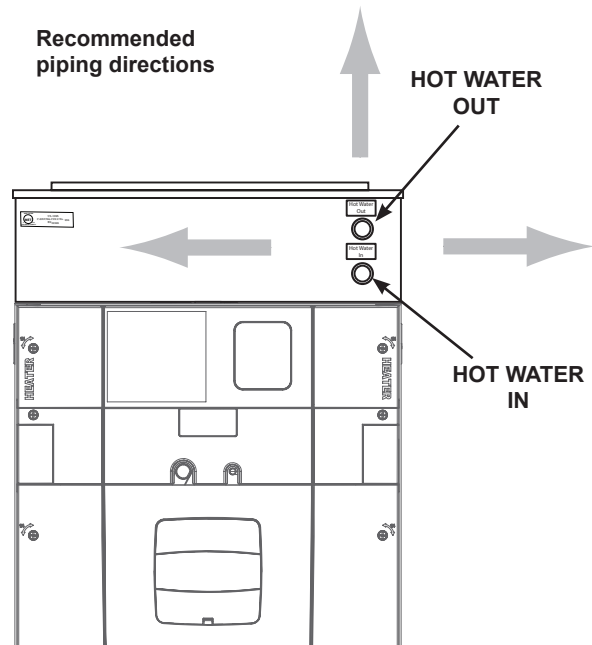
STEP 1 - Attach piping to the hydronic coil.

1. Piping must consist of two vertical pipes or two horizontal pipes.
2. Use a low temperature braze solder to attach pipes.

NOTE - The recommended piping directions are upward, and to either the right or left side when in the upflow orientation.

In all orientations, the water lines should not cross over the air handler unit.

Recommended piping directions



Section 6. Performance Tables

BAYWA2311SC1AAA

Entering Air Temperature 70°F db, 60°F wb

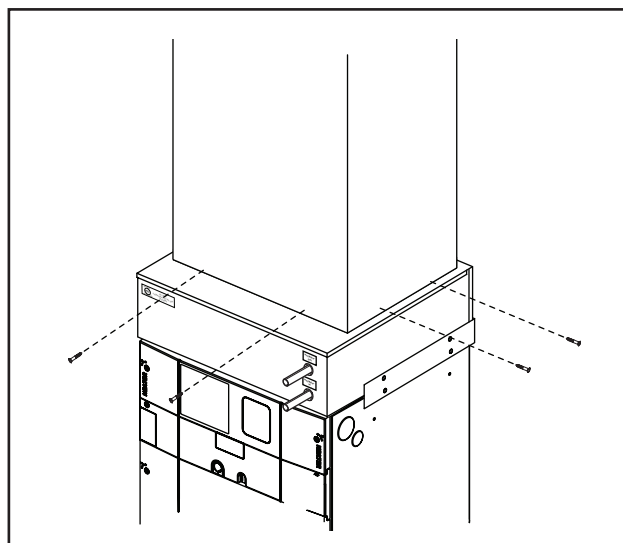
SCFM	GPM	Airside Pressure Drop, "W.C.	120°F Entering Water Temp		150°F Entering Water Temp		180°F Entering Water Temp	
			Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F	Total Capacity, BTUH	Leaving Air Temp, °F
1050	3	0.12	22584	93	37898	103	52052	120
	6		26957	96	44659	110	60251	127
	9		28861	97	47528	113	66048	130
1200	3	0.15	24485	91	41011	101	56072	116
	6		29226	94	48327	108	64905	123
	9		31291	95	51432	111	71149	126
1400	3	0.19	26736	89	44387	98	60848	112
	6		31913	92	52305	105	70434	119
	9		34167	94	55666	108	77210	122
1600	3	0.24	28609	88	47501	96	64994	109
	6		34149	91	55974	102	75233	116
	9		36561	92	59571	105	82471	119
1800	3	0.29	30308	86	50331	94	68934	106
	6		36176	89	59309	100	79793	113
	9		38732	91	63120	103	87470	116
2000	3	0.35	31878	85	52624	92	72182	103
	6		38050	88	62011	98	83552	110
	9		40738	90	65995	101	91591	113

	GPM	PD, Head water (ft)
BAYWA2311SC1AAA	3	0.6
	6	2.5
	9	5.6

Section 7. Ducting

Outlet dimension - 21-5/8" W x 18" D x 3/4" H

NOTE - Attach ducting per the air handler installation guide, as well as National and local codes.



Section 8a. 24 Volt Operation

NOTE: Air flow can be adjusted by discreetly controlling the W1, W2, & W3 inputs to the AFC with multi-stage thermostats. See additional notes on wiring diagram.

Example: 5TAMXD04 with BAYWA2308 hydronic heating coil

W1 input = 396 cfm

W1 + W2 input = 792 cfm

W1 + W2 + W3 input = 1200 cfm

Placing a jumper across all W inputs will result in the maximum airflow for the combination of heating coil and air handler.

AIRFLOW DEMAND IN 24 VOLT CONFIGURATION

COIL MODEL / AHU MODEL	W1	W1 + W2	W1 + W2 + W3	PWM CONTROLLED
BAYWA1705SC1A w/ 5TAMXB02	264	528	800	Ramped HP Airflow
BAYWA2107SC1A w/ 5TAMXC03	330	660	1000	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD04	396	792	1200	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD05	462	924	1400	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD06	528	1056	1600	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD07	594	1188	1800	Ramped HP Airflow
BAYWA2311SC1A w/ 5TAMXD07	660	1320	2000	Ramped HP Airflow

Airflow is based upon the heating demand from the comfort control based on the heat-pump airflow
Example: 4T outdoor unit x 400 HP Heating cfm/ton = 1600

Section 8b. Communicating Operation

AIRFLOW DEMAND IN COMMUNICATING MODE

COIL MODEL / AHU MODEL	MAXIMUM CFM	SERIAL COMMUNICATING
BAYWA1705SC1A w/ 5TAMXB02	800	Ramped HP Airflow
BAYWA2107SC1A w/ 5TAMXC03	1000	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD04	1200	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD05	1400	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD06	1600	Ramped HP Airflow
BAYWA2308SC1A w/ 5TAMXD07	1800	Ramped HP Airflow
BAYWA2311SC1A w/ 5TAMXD07	2000	Ramped HP Airflow

Airflow is based upon the heating demand from the comfort control based on the heat-pump airflow
Example: 4T outdoor unit x 400 HP Heating cfm/ton = 1600

About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit www.trane.com or www.americanstandardair.com



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